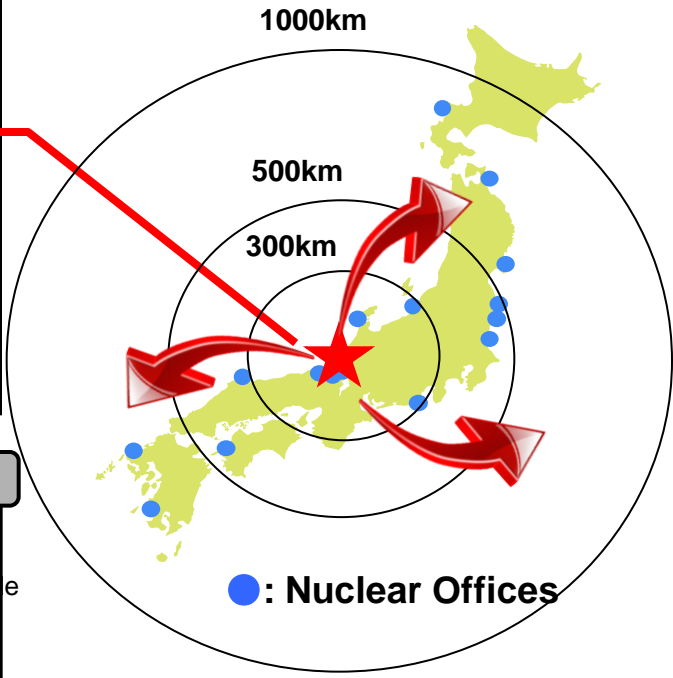
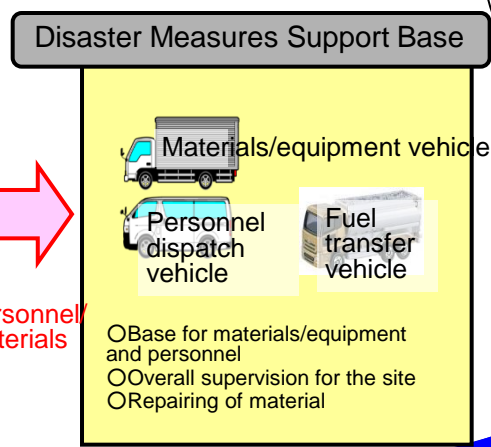
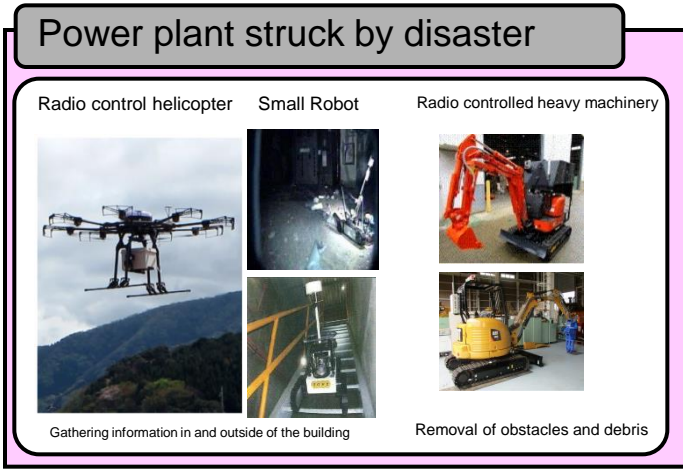
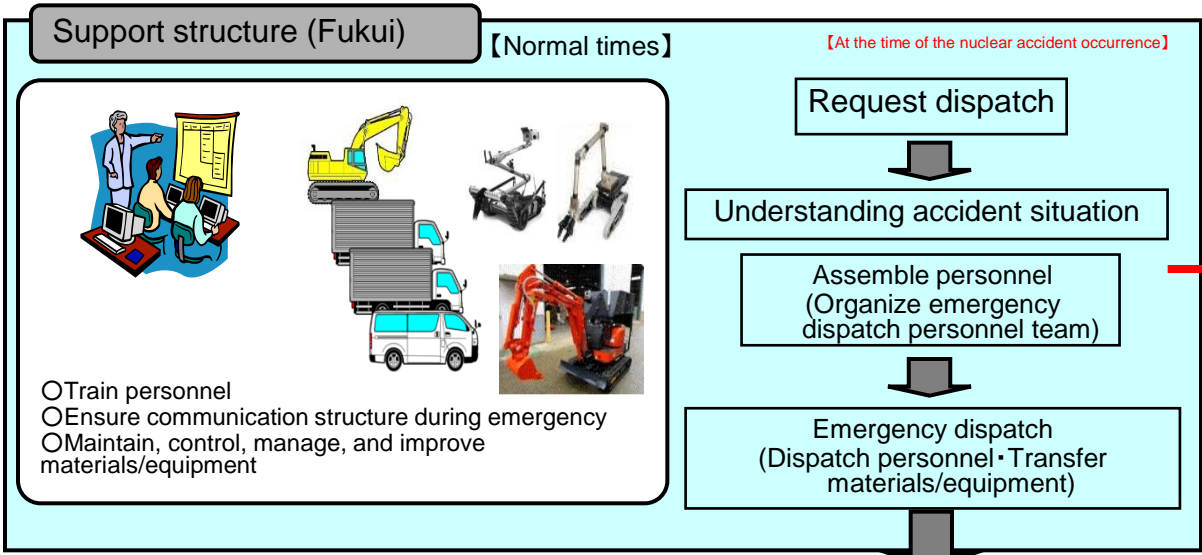


Start of full operation of “Mihama Nuclear Emergency Support Center”

November 18, 2016
The Federation of Electric
Power Companies of Japan

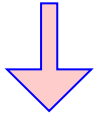
An overview of the nuclear emergency support organization

- ◆ When an nuclear accident occurs, swiftly assemble an emergency dispatch team, transport personnel and equipment to the operator struck by disaster, and cooperate with the operator to deal with the nuclear accident at high radiation dose.
- ◆ During normal times, intensively deploy and manage radio controlled robots, etc., and implement operating training for nuclear operator personnel



Personnel
Materials

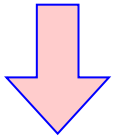
Jul. 2012: Announced the establishment of a “Nuclear emergency support organization”



- The Japan Atomic Power Company will lead in acquiring the necessary robots securing the transport method for the robots and materials along with operators from electric utilities.
- By March 2013, a dedicated team will be dispatched in Fukui prefecture, where many nuclear plants lie and also is pretty much the mid-point of nuclear power stations in Japan.
- With in FY2015, coordinate with related agencies to establish a “nuclear emergency support organization that is responsible for taking various and sophisticated accident countermeasures.

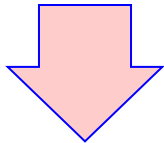
Jan. 2013: Established a “Nuclear Emergency Support Center”

• • • inside the Tsuruga General Training Center of The Japan Atomic Power Company



- Established a support structure in case of a nuclear accident. There are nine members in a dedicated team.
- Continued implementation of measures such as providing training to robot operators from the utilities. Also participated in disaster drills at the electric utilities.
- The equipment started off with two small robots and one medium robot, and is expanding gradually.
- Continued deliberation of details for establishing a “nuclear emergency support organization”.

Mar. 2016: Established a “Nuclear Emergency Support Organization”



- Established a “nuclear emergency support organization”, with eyes set to start operation of the new base which was under construction at Mihama-cho, Fukui Prefecture upon training personnel, preparing manuals, and reinforcing the organization.

Dec. 2016 Start of full operation of “Mihama Nuclear Emergency Support Center” (2016.12.17)

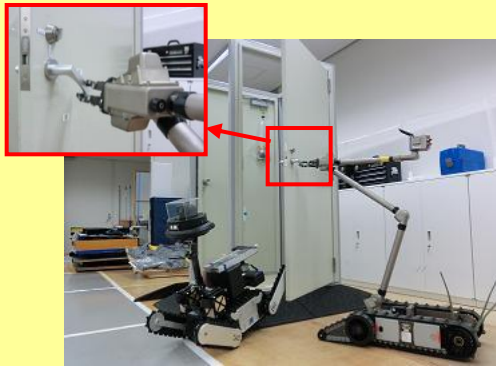
- Transfer the small and medium robots that is kept at “Nuclear Emergency Support Center” to the new base. This will allow to start operation with six small robots, two medium robots, two radio controlled helicopters, three radio controlled heavy machinery, etc. Increase personnel to 21 members.

Action status of the “Nuclear Emergency Support Center”

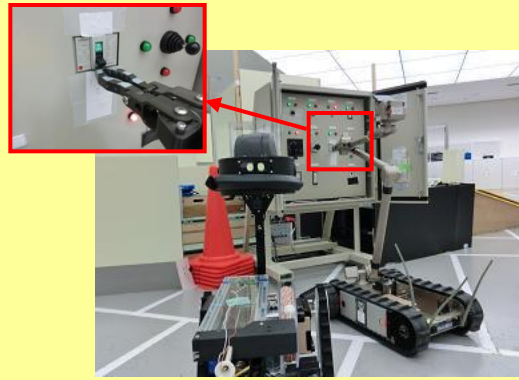
(Inside the Tsuruga General Training Center of The Japan Atomic Power Company)

◆ Train operators by participating in disaster drills at each power station, in addition to basic robot operations such as collecting information inside and outside including radiation measurement and removing obstacles.

Training within the “Nuclear Emergency Support Center”



Unlock the door, grab the doorknob, open the door, and enter



Opening the control panel and operating the switch



Removing obstacles in the dark



Opening-closing operation of the valve

**Training conducted: approx. 530 personnel in total
(Nine electric utilities + JAPC + J-Power + JNFL)**

Disaster drill at each power station



Drill in the power station



Training on transferring materials/equipment

**Training conducted: 17 power stations,
approx. 50 times in total**

* The training records are as of the end of October 2016

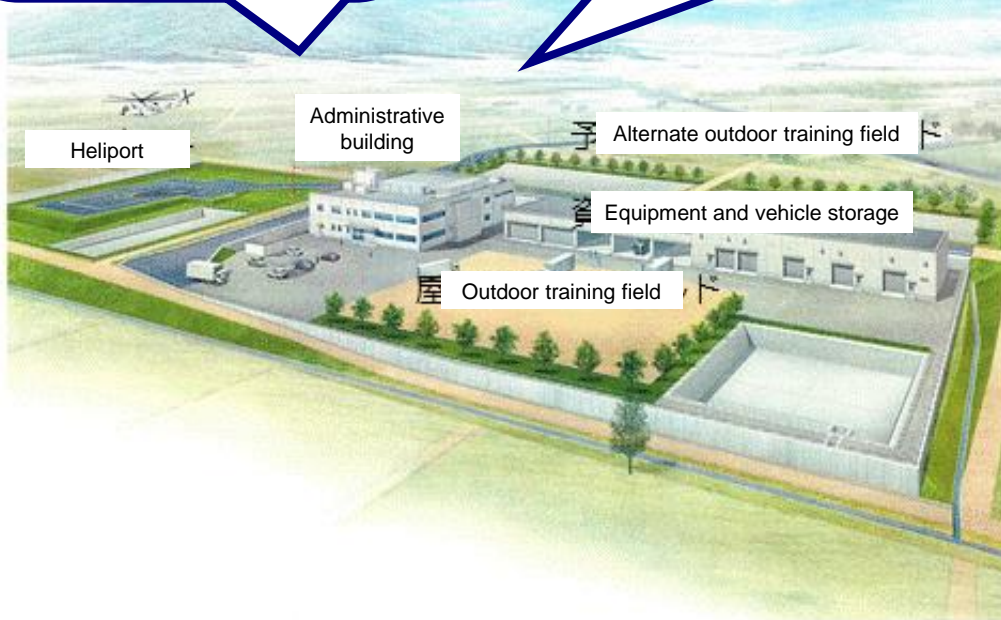
◆ The new base, “Mihama Nuclear Emergency Support Center” is planned to commence full operation in December 17, 2016. Equipment will be expanded, and reinforce structure and functionality.



Heliport (Transfer of materials/equipment by air)



Training facility (image)



Example of expanded equipment



Radio controlled helicopter (information gathering from height)



Small and large radio controlled heavy machineries (removing debris etc., outdoor)



Robot control vehicle

| | | | |
|---------------------------------------|---|--|--|
| Starting date of the actual operation | December 17, 2016 (planned) | | |
| Operating body | The Federation of Electric Power Companies of Japan, The Japan Atomic Power Company | | |
| Location | Mihama-cho, Mikata-gun, Fukui Prefecture | | |
| Area of the site | Approx. 26,000 m ² | | |
| Overview of the facility | Facilities | Usage | Specification |
| | Office building | Robot running room, operation room, meeting room, office, etc. | Two floor building made of reinforced concrete Total floor space: Approx. 2,000 m ² |
| | Storage for materials/equipments Garage building | Storage for robot materials/equipment, vehicle for transfer, etc. | One floor building made of steel frame Total floor space: Approx. 1,600 m ² |
| | Outdoor training field | Training for radio controlled heavy machineries and helicopters, etc. | Outdoor training Field: Approx. 2,600 m ² Reserve space for outdoor training Field: <u>Approx. 5,500 m²</u> Total Approx. 8,100 m ² |
| | Heliport | Taking-off and landing of the helicopters that are able to transfer robots | Approx. 6,000 m ² |
| Number of personnel | 21 members (planned) | | |

■ Materials/equipment deployed

(1) Materials/equipment that are remotely controlled

| Type | Usage | No. of units |
|--|---|--------------|
| Small-sized robot | Collecting information inside and outside building (including measuring radiation dosage) | 5 |
| Medium-sized robot | Removing obstacles inside building | 2 |
| Small-sized radio controlled heavy machinery | Removing obstacle inside and outside building | 2 |
| Large-sized radio controlled heavy machinery | Transferring equipment, etc. | 1 |
| Radio controlled helicopter | Collecting information from height (including measuring radiation dosage) | 2 |

(2) Materials/equipment to be used on site

| Type | Usage |
|---|---|
| Radiation protection materials/equipment | Full-face mask, dosimeters, tyvek (contamination protection clothing), etc. |
| Materials/equipment for radiation control and decontamination | Decontamination tent, High-pressure cleansing machine, drain water containment tank, survey meter, etc. |
| Materials/equipment for works | Radio-relay system, maintenance tool, spare parts, etc. |
| General materials/equipment | Communication equipment, light, power source, fuel, water, food, consumables, etc. |

(3) Transportation vehicles

| Type | Usage | No. of units |
|---|---|--------------|
| Wagon vehicle | Transporting personnel and light-weight materials/equipment | 2 |
| Large-sized truck (vehicles for transferring heavy machineries) | Transporting heavy machinery | 1 |
| Medium-sized trucks | Transporting robot, robot and heavy machinery control command center, power sources, etc. | 9 |

New base (Mihama Town)

Current base (Inside the Tsuruga General Training Center of The Japan Atomic Power Company)



Construction status of the new base (As of November 4, 2016)